nature. These beliefs have slowly died out, but Sir Thomas Browne, who lived so recently as the latter part of the seventeenth century, in his *Pseudodoxia Epidemica* wrote a book against the delusions of his countrymen, himself believing in many absurdities. The medicinal uses to which animals and herbs were applied strike us forcibly in these modern times. The scientific medical man of the nineteenth century was to be slowly evolved out of the medicine-man and conjurer. Nor are the two last entirely gone; they still may be found in the less civilised parts of Europe and in the more unfrequented nooks of our own country. We have no space to enumerate here the old works treating of popular therapeutics in England, such as the Anglo-Saxon medical books edited by the late Oswald Cockayne, in 1864, under the fantastic title, "Leechcraft and Wortcunning." The late Mr. Mowat, of Oxford, published two contributions on the subject in his *Alphita* and *Sinonoma Bartholomaei*. Many other works could be cited in English literature, but the immediate object of our article is to call the attention of our readers to the two volumes which have appeared from the pen of Mr. Joseph Rostafinski, professor of botany in the University of Cracow, and the title of which is given at the foot of p. 615. Prof. Rostafinski has furnished lists of the names of plants, animals, minerals and various kinds of herbs which were known in Poland from the twelfth to the sixteenth century. The greater part of these names are preserved in manuscript vocabularies in the libraries of Cracow (especially the so-called Jagiellon), Lemberg, Prague and St. Petersburg. Some of these vocabularies first became known in the pages of the Warsaw review, *Prace Filologiczne*, to which they were contributed by Prof. Brückner, of Berlin, one of the foremost Polish scholars.

For the botanist and student of natural history, these volumes have much value. Prof. Rostafinski catalogues the names of the plants, &c., upon a carefully-arranged system; compares the different names under which they are found, and gives us the Latin equivalents, which will help us in our search for them. He shows us where information has been gathered from Pliny and Dioscorides. His notes abound with folk-lore, and most people know how interesting folk-medicine is. Thus, of the herb koniochrom (*Hippocrepis comosa*, *L.*) we are told that it has this name (lit., making a horse lame) because if a horse treads upon it his shoe will fall off. The Slavonic appellation for the linden, or lime-tree, is lipa, and comes up in the original Slavonic name for Leipzig, Lipsk. On p. 443, vol. i., we get interesting details of the auerochs, of which a picture is given in Hartknoch's quaint old book on Prussia. It has now been almost exterminated, and is only found in some forests of Lithuania, where it is preserved for the Emperor's hunting. It is singular that in the sixteenth century camels were used in Poland; thus we find them employed in the time of Sigismund Augustus, when that monarch was journeying from Cracow to Wilno. The Slavonic name for camel is derived from the Gothic word ulbandus, which is really a very ancient adaptation of the Greek ἐλέφας.

One of the most curious parts of this interesting book is where the writer deals with the fabulous animals, basilisks, &c. The folk-lore connected with these is abundant. We are reminded of the work of our own countryman, Topsell. In fact, we have a good account of the flora, fauna and minerals, how they were called and what was known of them in Poland during the Middle Ages. Although the scope of the work is in a way limited to Poland, yet, as the author says in his introduction, which appears in Latin as well as in Polish, the book will be serviceable for north Europe generally. There is in reality a great unanimity in many of these legends about plants and animals. Pliny leads off, we may say, in his "Natural History," which was the great storehouse during the Middle Ages for folk-lore of all kinds. We must not forget, also, Bartholomæus' "De Proprietatibus Rerum," *c.* 1400. The Slavonic riches are being gradually collected; much has been already done in Russian, and the late Mr. Ralston made use of it in his books of Russian folk-songs and Russian folk-tales. The *Sbornik*, or *Miscellany*, published yearly by the Bulgarian Government, generally devotes a section of each new volume to these popular traditions. In England we have no special organ, except it be the *Folk-lore Journal*; our popular superstitions must be gathered from the miscellaneous pages of *Notes and Queries* and such books as "Gerard's Herbal." No little light is afforded by the curious medical works published in the sixteenth and seventeenth centuries, among which may be expressly mentioned the "Breuyary" of Andrew Borde and the choicely quaint work of Dr. Tobias Venner. In the life of Seth Ward, by Dr. Walter Pope, some extraordinary tales are told of a surgical operator of that time, and also in Aubrey's Lives.

In all countries the popular names given to plants may be said to be richly significant, and therefore not only the man of science, but the philologist may find much material in Prof. Rostafinski's volumes.

INTERNATIONAL ASSOCIATION OF ACADEMIES.

THE meetings of the International Association of Acadamies were concluded last Saturday, when it was determined unanimously that the next Congress should be held in London in 1904. Although the *Comptes rendus* of the various meetings have not yet been published, it is known that much useful work has been accomplished. Nothing could exceed the cordiality of the reception accorded to the foreign delegates by the French authorities and their scientific *confrères*. After the final meeting on Saturday, the delegates were received by the President of the Republic and Madame Loubet, and later in the day they attended a dinner and concert given in their honour at the Hôtel de Ville.

NOTES.

As already announced, a complimentary dinner to Sir Archibald Geikie will be given next Wednesday, May 1, at the Criterion Restaurant. A number of distinguished men of science will be present, and the chair will be occupied by Lord Avebury. It is felt that the retirement of Sir Archibald Geikie from the position of director-general of the Geological Survey should not be permitted to pass without an expression of appreciation of his services to science and to the nation. All who are able will, we are sure, show by their presence at the dinner that they delight to do honour to one who has worked so worthily and with such success for the extension of scientific knowledge. Tickets may be obtained from Mr. F. W. Rudler, 28, Jermyn Street, S.W.

WE regret to see the announcement of the death of Prof. H. A. Rowland, professor of physics at the Johns Hopkins University, Baltimore, U.S.A.

THE Australian mail brings us news that Messrs. Baldwin Spencer and Gillen left Adelaide on March 15 for their twelve months' North Australian expedition. Owing to the presence of drought in the interior, the start, which was to have been made early in February, had to be delayed. The original intention of the explorers was to have worked out through the McDonnell Range and the Arunta tribes, and then north, until the mouth of either the Daly or Victoria river was reached; but it seems likely that this course might have to be given up in preference for an inverse one starting from Port Darwin,

which, with either the north and east or the west coast, was to have been the returning route. Our information from the explorers themselves is that they have simply "started away for the far north," but it affords us great pleasure to add that it embodies the news that, in addition to the 1000*l.* contributed to the expenses of the expedition by Mr. D. Syme, of the Melbourne *Argus*, there has been given a further sum of 500*l.* by Mr. Reuben Spencer, of Darley Hall, Manchester, father of the leader.

THE committee of the National Physical Laboratory will shortly appoint several members of the staff of the laboratory. Applications are invited for the post of superintendent of the engineering department; and other appointments to be made include two or three assistants in the physics department—one of them to take charge of chemical investigations—and a few junior assistants. Particulars as to salaries, &c., will be found in our advertisement columns.

MANY people wonder why the Thames is not used for passenger traffic to the same extent as the Seine. With a quick and punctual service, and neat vessels, the Thames might become the most popular means of travel in the metropolis. The Thames Steamboat Company possesses thirty-six vessels, having a total carrying capacity of more than sixteen thousand passengers. The vessels will be reviewed on May 1, and the service will commence on the following day. There will be a ten-minutes service between London Bridge and Battersea, a half-an-hour service between Chelsea and Kew, and a service of the same frequency eastwards from Westminster to Greenwich and Woolwich. It is sometimes objected that on account of the windings of the river the distance from one point to another is much greater than by road; but it must be remembered that omnibuses —with which the steamboats are comparable—follow routes which deviate from a direct line almost as much as the river. The better the service of steamboats on the Thames the more people will take advantage of this pleasant means of communication, and in the course of time London might be so well served in this respect as Paris is now.

THE Senate of Minnesota has passed a Bill prohibiting the marriage of insane, epileptic and idiotic persons, and requiring a medical certificate of all applicants for marriage licenses.

WE learn from *Engineering* that the valuable collection of early scientific works made by the late Mr. Latimer Clark, F.R.S., has been purchased by Mr. S. S. Wheeler and presented to the American Institute of Electrical Engineers. Mr. Andrew Carnegie has offered to provide the large sum necessary to house the entire collection in its new quarters.

THE Agricultural Research Association is a Scottish organisation, founded about twenty-five years ago and having for its objects the carrying out of two branches of work of the utmost importance to farmers, viz. scientific investigations bearing upon agriculture, and the dissemination of the information thus obtained among those to whom it is likely to be of practical use. The research station is at Glasterberry, Milltimber, Aberdeen. The Association has a strong list of names of patrons, office-bearers and members of the executive committee, and the director of research is Mr. Thomas Jamieson, of Aberdeen, under whose able administration some excellent work has been carried out and many most valuable results have been made public. From the report of the Association for the year 1900 it appears that experiments have at various times been conducted on the comparative values of finely ground and soluble phosphates, on the aperture in root hairs, on the relative values of different forms of nitrogenous, phosphatic and potash manures, on the cause of finger and toe disease in turnips, on the characters of roots of grasses and clovers, on the permanence of rye grass, and other subjects. Among the more recent inquiries has been a most carefully conducted set of experiments demonstrating that natural cross-fertilisation of oats leads to larger and more productive crops without extra outlay. It is proposed to extend the experiments to other crops in view of the decisive results obtained with oats. The Association is dependent on the subscriptions of landowners and farmers, and although the latter take the greatest personal interest in the work, the amount of the subscriptions has been insufficient to meet the necessary expenditure, and the director has in consequence had to meet the deficiency incurred during last year's work. In view of the practical value, to say nothing of the scientific importance, of the results hitherto achieved, it is to be hoped that the appeal of the committee for a further measure of support will meet with that response on the part of the landowners which the work of the Association most certainly merits.

THE Easter party is now at work at the Port Erin Biological Station. The curator, Mr. H. C. Chadwick, who has recently been for a couple of weeks at the Lancashire Sea-Fisheries Hatchery, making himself acquainted with the methods employed there, has now returned to Port Erin, and Prof. Herdman is there with a party of students. Dr. O. V. Darbishire, from Owens College, occupies a table and is at work on his forthcoming L.M.B.C. memoir on Gigartina; Miss Thornely, of Liverpool, is examining Polyzoa, and there are three senior students from the zoological department of Owens College at work. Other naturalists are expected during the latter part of this month. The boisterous weather of late has prevented much work at sea, but several shore collecting expeditions have taken place, and arrangements have been made for a steam-trawler for dredging. This is a late season amongst marine animals in the Irish Sea, probably on account of the recent cold weather. The fish spawning is not so far advanced as is usual at this time, and sedentary colonial animals, like compound ascidians, on the shore seem to be less abundant and smaller than usual. In the tanks of the Aquarium several common shore invertebrates are now spawning; Ephyræ made their appearance in swarms during the greater part of March; *Porania pulvillus*, obtained on dredging expeditions from deep water, has established itself and is living healthily; while several of the large wooden tanks contain crops of self-planted algæ and other small organisms, and support a varied fauna without change of water and with very little attention.

WE learn from *Science* that the following grants from the Gould Fund have recently been made:—to Mr. John A. Parkhurst, 30 dollars; to Dr. Herman S. Davis, 500 dollars; to Mr. Paul S. Yendell, 225 dollars; to Prof. Simon Newcomb, 25 dollars. A considerable additional amount of income has accrued, for the distribution of which applications are awaited. These applications may be made by letter to any of the directors, stating the amount desired, the nature of the proposed investigation, and the manner in which the money is to be expended. The directors, desiring to stimulate the participation of American astronomers in the attempt to bring up the arrears of cometary research, offer to them the sum of 500 dollars for computation of the "definitive" orbits of comets, this sum to be distributed at the average rate of 100 dollars for each computation—the amount to vary according to the relative difficulty of the computation, and to be determined by the directors of the Gould Fund. Computers should promptly notify the directors of their participation or desire to participate, and manuscripts should be submitted not later than July 1, 1902.

Apropos of the red rains of African dust which have recently excited considerable attention in the south of Italy, Dr. H. R. Mill, the editor of *Symons's Meteorological Magazine*, directs attention, in the issue for the current month, to a blood-rain plant which has invaded the large evaporation tank at Camden

Square. The plant has been examined microscopically by Mr. V. H. Blackman, of the Botanical Department of the British Museum, and is found to be a minute motile alga called *Sphaerella pluvialis*. It is usually found in small pools, and is closely allied to the microscopic plant which gives its colour to red snow. Its occurrence in rain is a rarity, and it has nothing in common with the red sand-rains of the Continent—except the colour—but if a whirlwind were to pass over the tank, showers coloured red might be produced along its subsequent track by the same process as the familiar showers of frogs and fish.

WE have received from the director of the Meteorological Service of Canada an interesting account of the cloud observations made at the Toronto Observatory during 1896 and 1897. The instruments used consisted essentially of two ordinary surveyor's theodolites, the telescopes being replaced by a long axis made for each and mounted in the V's of the standards. The length of the base line was 1552 metres; the observer at one station selects some well-defined point of a cloud and telephones its position to the observer at the other station, and on his identifying it the two observers sight it at the same instant of time, and this operation is repeated after an interval varying from 40 seconds to 8 or 10 minutes. Not much photography was done, owing to the difficulty of keeping the cameras in adjustment. The highest cirrus measured in the latter part of 1896 was at 10,000 metres, velocity 79 miles an hour, and the lowest 8100 metres, velocity 55 miles. In June 1897, altitudes exceeding 11,000 metres were obtained, with velocities of about 100 to 150 miles an hour. Mean height during the summer season was 10,900 metres, mean velocity 40 miles, and in the winter season 9,978 metres, velocity 26 miles. The heights and velocities of the various clouds are given in the same way, the mean heights of the lowest cloud, the cumulus, being in the summer season 1697 metres and in the winter season 1326 metres; the mean velocity was only about 10 miles an hour.

THE second sheet of the North Atlantic and Mediterranean Pilot Charts, issued by the Meteorological Office last week, exhibits the salient features of the region in the month of May. In dealing with the winds it is pointed out that, as indicated by the isobars on one of the inset charts, the barometric gradient between the anticyclone of the horse latitudes and the depression near Iceland is now only about ½ inch, so that the winds over the northern half of the Atlantic are of moderate force and strong gales are uncommon, the southern limit of 10 per cent. frequency of gales receding northward to between the 45th and and 50th parallels. Some characteristics of the tornadoes on the African coast are mentioned, and advice given as to how a vessel should be handled. It is instructive to observe that with the advance of the year fog is not only increasing on the banks but the area is creeping eastward, while another area is spreading westward from the Bay of Biscay. The great advantages of ocean current charts for each month of the year are becoming very evident. To quote the latest chart, "The results show the changes, both local and general, which are associated with the advance of the seasons. In the month of May it will be seen that to the westward of the British Isles, between the 50th and 60th parallels, the drift is largely to the west and south-west, there being no evidence of the north-eastward extension of the Gulf Stream beyond about 47° N., 27° W. Between the 30th and 50th parallels westward to the 30th meridian, nearly the whole of the surface water has a south-going movement. These features are probably closely related to the prevalence of polar winds off the coasts of North-Western Europe at this season." The distribution of atmospheric pressure, with the accompanying northerly winds, distinguishing the European "Cold Spell" of May, is illustrated by means of an inset chart and remarks, and there is information bearing on several other topics; but sufficient has been said to show that the chart may be of service to many others in addition to seamen.

THE Sydney Botanic Gardens, which are admittedly among the finest in existence, comprise about forty acres, and their northern edge forms a semicircle round Farm Cove, one of the many charming indents of the harbour, and forming the anchorage of the vessels belonging to the Australasian squadron. Adjoining the western boundary of the gardens are the grounds surrounding the residence of the Australian Governor-General. Recently the gardens have been enriched by the addition of the first museum in Australia strictly botanical in character, all existing museums in which plant products are exhibited being either technological or partly botanical and partly technological. The building, which has been erected under the supervision of the State Government architect, now comprises a museum, herbarium, library, store room, photographic room, seed room and offices. The museum was formally opened by Mrs. John See, whose husband, the acting-Premier and Chief Secretary of New South Wales, said the collection was a national one, and that so long as he occupied the position he would do all he could to provide money for extending its usefulness.

DR. B. SHARP described, at a recent meeting of the Academy of Natural Sciences of Philadelphia, some observations he has made on the contents of the stomachs of the common cod. Several hundred stomachs were opened with the hope of finding shells of gastropods and bivalves. Numerous valuable shells were taken from the cod years ago by Stimpson and Gould on the New England coast, north of Cape Cod, and it was supposed that similar finds would come to light from the cod caught off Nantucket. The stomachs examined were filled almost exclusively with crustaceans and for the most part with species of Panopeus. Hermit crabs, without shells, and a few Crepidulæ were also seen. Here and there young lobsters were found in the stomachs, occasionally two in one stomach. Dr. Sharp believes that the decrease in quantity of the lobsters, which has been so marked within the past few years, is partly due to their consumption by the cod; and as these have of late greatly increased in numbers, owing to the work of the United States Fish Commission, the lobsters have not been able to keep pace with the increase of their enemies.

Petermann's Mitteilungen contains a short descriptive paper on the region surrounding the junction of the Trombetas with the Amazon, by Dr. Friedrich Katzer, with a map based on surveys made under direction of the Belgian engineer, Haag, chiefly by Captains Le Blanc and Robert. The map indicates considerable modifications of those already extant.

PROF. E. RICHTER communicates to *Petermann's Mitteilungen* a letter addressed to him by Herr Schuh, of Gmunden, on some temperature observations made in the Gmunden See, which seem to settle the question of why water at the surface of a lake on which ice is forming has always been recorded as warmer than the freezing point. Using an ordinary thermometer, Herr Schuh observed temperatures of 0°·4, 1°·5, 2°·0 and 3°·4 C. within an area of 1 sq. m. on which ice was actually forming. A special form of thermometer was then devised, of which the lower part was drawn out into the form of a pear 7 mm. in diameter, the instrument being filled with spirit and carrying a minimum index, and the whole was so arranged as to swim on the water with the pear-shaped part immersed horizontally. Repeated observations showed that where ice was forming the spirit showed a temperature of 1° to 3° when the instrument was lifted out of the water, but the index invariably read 0° C. Hence it appears that the

ice-forming layer is one of extreme thinness just at the surface, and that in observing with the ordinary thermometer this layer gets mixed with the warmer water underneath.

A MATHEMATICAL investigation of the motions of seismographs, which from its nature bids fair to have important applications, is published by Dr. M. Contarini in the *Atti dei Lincei*, x. 5, 6. In it the author determines the differential equations regulating the motion of the forms of seismograph considered relative to three rectangular axes, and shows how these equations may be integrated. The assumption on which this work is based is that all the points of attachment, both of the pendular masses and of the registering levers, are treated as being rigidly connected with the earth.

IN the *Bulletin* of the Cracow Academy, November 1900, Herr Zorawski studies the motion of a continuous system of material points regarded as a group with the infinitesimal transformation determined by the well-known operator of the ordinary equations of hydrodynamics. It appears that if the characteristic equation possesses three distinct roots, the principal axes of the quadric connecting the rates of strain are transformed into principal axes, if two roots of the characteristic equation are equal only one principal axis is transformed into a principal axis, finally, in the case of a triple root, the line element possesses properties which the author designates as "perfectly symmetrical."

THE resistance of cereal smuts to formalin and hot water forms the subject of a short paper by Mr. William Stuart in the *Proceedings* for 1898 of the Indiana Academy of Science, which has recently reached us. The results obtained in the treatment of the spores are well within the bounds of successful practice, the spores being much more easily injured with either hot water or formalin than is the grain. It is apparent that the essential feature in the successful treatment of grain for smut is to bring each seed in contact with the solution used for a sufficent length of time to enable it to reach the spores. The advantage possessed by formalin over hot water in the treatment of seed grain lies in its greater ease of application, doing away with the necessity of heating water and maintaining a sufficiently uniform temperature during the treatment. Mr. Mason B. Thomas describes some field experiments with formalin in the same volume.

PART 67 of the *Communications* from the Leyden Physical Laboratory contains a paper by J. C. Schalkwijk on precise isothermals, in which the author describes methods of determining the corrections to be applied in taking account of the volume of the meniscus of mercury in working with standard gas-manometers.

A DISCUSSION on the properties of steel containing nickel is presented to the Report of the Congrés International des Méthodes d'Essai (Paris, 1900). In passing from ordinary steel to that containing a considerable proportion of nickel the principal changes are the lowering of the temperature of transformation of the carbon, the fusion of two of the transformations and the exaggeration of the phenomena accompanying the double point. In ferro-nickels containing traces of carbon, but more than 20 per cent. of nickel, the transformations are determined by the nickel, the carbon acting as a retardent. It appears that the magnetic properties are due to a certain molecular transformation which takes place with evolution of heat, and when this molecular grouping is prevented by the presence of some other body, the metal may be reduced to ordinary temperatures without exhibiting magnetic phenomena. The author compares ferro-nickels to solutions rather than combinations. Finally, it is suggested that by the addition of nickel many properties of steel may be studied at temperatures considerably below those at which they occur in pure steel. As an example the author mentions the gradual changes of volume which take place in the course of years, and which in the case of nickel steels may be observed at the temperature of the laboratory, whereas it would be impossible to study similar changes occurring at an elevated temperature in pure steel.

IN the April number of the *Zoologist* Mr. J. H. Gurney mentions that the nestling of the green woodpecker, when a few days old, develops a pea-like knob on each side of the hinder part of the mandible. It would be interesting to discover the use of this peculiar growth, which appears to have been hitherto unnoticed.

A LARGE portion of vol. xxii. part 3 of *Notes* from the Leyden Museum is taken up by instalments of Dr. O. Finsch's catalogue of the birds in the collection; these deal with certain eagles, the parrots of the South Sea islands, and various passerines. Another article, by Dr. Jentink, treats of certain alleged errors in the description of the large West African diuker antelope (*Cephalophus sylvicultor*). Considering that one of the articles is dated March 1901, it is somewhat difficult to understand why this part of the *Notes* is issued for July 1900.

PART 3 of vol. lxix. of the *Zeitschrift für wissenschaftliche Zoologie* contains six memoirs, five of which deal with the anatomy and morphology of invertebrates, while the sixth (by Herr E. Botezat) treats of the nerves of the hard palate of mammals, a subject which has hitherto received but little attention from anatomists. To specialists, Prof. F. Vejdovský's communication on the morphology of the antennæ and shell-glands of the crustacea should prove interesting. Another paper, by Herr N. Kassianow, deals with the nervous system of the lucernarian medusæ.

THE concluding portion of Mr. E. J. B. Sopp's address on the importance of the study of life-history among insects is published in the *Entomologist* for April. After mentioning that insects in captivity are often somewhat misleading in their habits, and that all observations should be verified on specimens in the wild condition, the author cites a few instances where our ignorance of insect physiology is most noticeable. It is quite unknown, for example, how the water-beetles of the genus Dytiscus produce their well-known stridulating sound. Neither do we know the use of the peculiar cord-like structure found in "bloodworms," or larvæ of the gnat-like fly *Chironomus plumosus*, nor how the respiratory air-sacs of the "phantom larvæ" of another gnat, *Corethra plumicornis*, become inflated with air, and that, too, in all probability of a highly oxygenated character. The author also calls attention to the importance of coalition between natural history societies for the purpose of recording the local abundance of insects in their respective districts. It is the common and not the rare species to which attention should be directed, as by this means we may in time be able to predict and thus prevent the appearance of "plagues" of noxious kinds.

A DESCRIPTIVE catalogue of the Coleoptera of South Africa, by Mr. L. Péringuey, assistant director of the South African Museum, constitutes vol. xii. of the *Transactions* of the South African Philosophical Society. The catalogue occupies 563 pages, and is illustrated by nine plates.

WE have received a copy of *Electrical Investments*, a new fortnightly journal devoted mainly to the financial side of electrical undertakings. Besides an extensive share list, the paper contains a leading article and comments on matters of interest to those concerned, financially or otherwise, with electrical matters.

IT will interest archæologists to know that the concluding volume (vol. iv.) of "Old Northern Runic Monuments of Scandinavia and England," by the late Prof. George Stephens, will be published shortly in English by Messrs. Williams and Norgate. The work was left incomplete by Prof. Stephens, but from his notes and papers his son has been enabled to prepare the volume for publication.

MUCH information not easily obtainable is brought together in a little publication just added to the Patent Office Library Series, of which it forms No. 4, under the title "Guide to the Search Department of the Patent Office Library, with a Dictionary of 'Trade or Fancy' Names." The book shows in what publications, and for what periods, grants of patents and registration of trade marks and designs are recorded, the information being arranged under the names of countries. The dictionary of words used to designate materials, processes and mechanical appliances will often prove of service, for the etymology of the words rarely gives a clue to the nature of the things designated.

THE *Proceedings* of the American Association for the Advancement of Science, containing addresses and abstracts of papers read at the forty-ninth meeting, held last June in New York, have just been received. By an arrangement with the Macmillan Company, members of the Association now receive the weekly journal, *Science*, free of charge; and as the journal publishes the official notices and proceedings of the Association, the members are kept in touch with these affairs as well as with the progress of science in return for their single subscription.

THE *Psychological Index* this year occupies 179 pages of the special number of the *Psychological Review*. The index is a bibliography of the literature of psychology and cognate subjects for the year 1900, and includes publications in all languages, together with translations and new editions in French, German and English. There is a comprehensive subject-index, containing 2627 entries, and also an authors' index. Prof. H. C. Warren, of Princeton University, who is the compiler of the index, deserves the thanks of psychologists for the careful way in which he has done his work.

"THE Handbook of Jamaica" for 1901, compiled by Messrs. T. L. Roxburgh and J. C. Ford, has been published by Mr. Edward Stanford. The work is now in its twenty-first year of publication, and contains an immense amount of historical, statistical and general information concerning the island

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus*) from India, presented by the Rev. J. M. Glubb; a Bennett's Wallaby (*Macropus bennetti*) from Tasmania, presented by Mrs. L. Brown; a Water Rail (*Rallus aquaticus*), British, presented by Mr. A. W. Arrowsmith; a Blue-breasted Waxbill (*Estrelda cyanogastra*) from West Africa, presented by Miss E. C. Stephens; a Raven (*Corvus corax*), European, presented by Mr. J. C. Cadogan; two Red-eared Bulbuls (*Pycnonotus jocosus*), a Red-vented Bulbul (*Pycnonotus haemorrhous*) from India, a Chinese Bulbul (*Pycnonotus sinensis*), a Chinese White-eye (*Zosterops simplex*), a Chinese Mynah (*Acridotheres cristatellus*) from China, a Wattled Honey-eater (*Anthochaera carunculata*) from Australia, a Black Tanager (*Tachyphonus melaleucus*), a Silky Cow-bird (*Molothrus bonariensis*), a Red-headed Marsh-bird (*Ageleus ruficapillus*), two Sulphury Tyrants (*Pitangus sulphuratus*) from South America, a Brazilian Tanager (*Ramphocoelus brasilius*), a Red headed Cardinal (*Paroaria larvata*), a Brazilian Hangnest (*Icterus jamaicai*), a Bay Cow-bird (*Molothrus badius*) from Brazil, a Black-tailed Hawfinch (*Coccothraustes melanurus*) from Japan, a Long-tailed Glossy Starling (*Lamprotornis aeneus*) from West Africa, a Nutcracker (*Nucifraga caryocatactes*), European, two Black Larks (*Melanocorypha yeltonensis*) from Siberia, presented by Mr. J. M. C. Johnston; a One-wattled Cassowary (*Casuarius uniappendiculatus*) from New Guinea, a Blackish Sternothere (*Sternothoerus nigricans*) from Madagascar, Six Ceylonese Terrapins (*Nicoria trijuga*), three Bungoma River Turtle (*Emyda granosa*) from India, a Black Tortoise (*Testudo nigra*) from the Galapagos Islands, deposited; a Garnett's Galago (*Galago garnetti*) from East Africa, three Brazilian Grosbeaks (*Guiraca cyanea*) from Brazil, purchased.

OUR ASTRONOMICAL COLUMN.

ASTRONOMICAL OCCURRENCES IN MAY.

May 1.	15h. 18m. to 16h. 19m.	Moon occults *i* Virginis (mag. 5·5).
1–6.		Epoch of Aquarid meteoric shower (Radiant 338°—2°).
3.	4h. 6m. to 8h. 55m.	A penumbral eclipse of the moon.
3.	6h. 31m.	Middle of the eclipse.
3.	7h. 28m.	Moon rises at Greenwich.
7.	12h. 39m. to 13h. 51m.	Moon occults 21 Sagittarii (mag. 4·9).
8.	12h. 26m. to 13h. 23m.	Moon occults *d* Sagittarii (mag. 4·9).
8.	13h.	Saturn in conjunction with moon. Saturn 3° 48′ South.
9.	13h. 3m. to 14h. 59m.	Transit of Jupiter's Sat. IV.
12.	11h. 48m.	Minimum of Algol (*β* Persei).
13.	13h. 57m. to 14h. 48m.	Moon occults λ Piscium (mag. 4·7).
14.	11h. 30m. to 14h. 34m.	Transit of Jupiter's Sat. III.
15.		Venus. Illuminated portion of disc = 0·998.
15.		Mars. Illuminated portion of disc = 0·895.
17.	17h. 29m.	Sun eclipsed, invisible at Greenwich.
21.	15h. 1m.	Transit (ingress) of Jupiter's Sat. III.
25.		Saturn. Outer minor axis of outer ring = 17″·06.
31.	11h. 49m. to 12h. 36m.	Moon occults B.A.C. 5109 (mag. 5·4).

NEW VARIABLE STAR 70 (1901) URSA MAJORIS.—In the *Astronomische Nachrichten* (Bd. 155, No. 3701) Dr. T. D. Anderson announces the discovery of a new variable star having the position

R.A. = 8h. 57·9m.
Decl. = +51° 42′ (1855).

The magnitudes observed were:—

1901	February	13 ...	10·4
		15 ...	10·4
	March	24 ...	9·8
		27 ...	9·7
	April	3 ...	9·6

NOVA PERSEI.—Prof. H. C. Vogel gives particulars of some of his later work on the spectrum of the new star in the *Astronomische Nachrichten* (Bd. 155, No. 3701). Measures of seven lines between H_a and H_β are given, being ascribed to sodium, helium and possibly magnesium. A discussion is included of the possible explanation of the great width of the lines by the work of Humphrey and Mohler, Wilsing and others.

Herr J. Plassmann, the well-known variable star observer, gives a series of estimates, by Argelander's method, of the brightness of the Nova from February 23 to March 27. In many cases estimates taken at different times during the same night show the variation of the star (*Astronomische Nachrichten*, No. 3705).

REDUCTION OF PHOTOGRAPHS OF STELLAR SPECTRA.—Nos. 3702–3 of the *Astronomische Nachrichten* are devoted to a treatise by Dr. Hartmann on the measurement and reduction of photographs of stellar spectra, using the dispersion formula put forward by him some time ago, with special reference to the determination of velocities in the line of sight.